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*Dedicated to the Conservation of
Virginia's Wildlife and Related Natural Resources
and to the Betterment of
Outdoor Recreation in Virginia*

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COMMONWEALTH OF VIRGINIA

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AWARD—1965**

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APRIL

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IN THIS ISSUE

PAGE

Editorial: For the Beauty of the Earth	3
Letters	3
Quail Farning in the Coverts	4
Trout	6
The Virginia Wildlife Federation	8
Fishin' Holes: Jennings Creek	11
Trophy Crow Hunt	12
Conservationgram	13
Record Busters	14
Set Her Up For Speed and Penny Pinching	16
Fly Fish the James	20
Animal Speedsters	22
Foresters Now Use Fire	22
The Drumming Log	23
Youth Afield	24
On the Waterfront	25
Bird of the Month: Veery	27
Pictorial Sketchplate: Night Birds	28

COVER: Originally native only to streams of the Pacific slope of the Sierras, the beautiful rainbow is a popular transplant in trout waters throughout the nation. These colorful fighters, known for their fast and furious runs and spectacular leaps, provide the bulk of the catch on Virginia trout streams. Our artist: Duane Raver.

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For The Beauty Of The Earth

THE tide that turned last December flows strongly now, and urgently, toward full flood. Gone is winter's melancholy stillness, shattered by the triumphant chorus of life renewed. The earth blooms and sings, as though the creative approach to natural beauty, which we have set for ourselves as a national goal, were suddenly preempted by powerful primordial forces which remain forever apart from man and his works.

The course of our recent social history tends to estrange us from many earthy things, and because of this we sometimes make a distinction between the world of nature and that of man. Such distinction itself is artificial, and can be misleading.

Man is one species out of thousands; unique, but still one of many. He belongs. The study of natural history reveals nothing more clearly than man's involvement in the evolution of life on this planet. As eloquently as any other field of inquiry it preaches the doctrine of the unity of all creation—one ultimate source, one common birthright, one common loyalty, shared not only among men, but also shared by man with all his fellow beings, great and small. It also proclaims that a measure of responsibility for the direction of further evolution and progress of life on this planet has been delivered into mankind's sometimes uncertain hands.

Man is an inventive creature, set apart from others by the *unique degree* to which he has the power to alter his surroundings—and theirs. While this power may never be absolute, it will continue to grow so long as our energy and inventive genius are applied to the proliferation of our tools. Man's purposes, however, must always be beyond what mere machines can accomplish, no matter how elaborate and sophisticated these machines may become. The quest for natural beauty is one such purpose.

Natural beauty is not to be created by any superficial "cosmetic" beautification of our landscape. Real beauty of any kind is a reflection of unity of form and function, and of a fundamental harmony of the whole. Natural beauty, therefore, must be a reflection of fundamental harmony within the natural environment, in which man and his works are integral parts.

Furthermore, beauty is not something that *is*, but rather something we experience. It cannot exist independent of the eye that sees it, the ear that hears it, the mind that appreciates it, or the soul that is moved by it.

Our quest for true natural beauty involves the developing of a way of looking at our environment—and caring very deeply about it; of sensing the fundamental unity and continuity in that environment—and being moved by the discovery; of feeling the basic harmony in that environment—and wanting very much to be and to remain a part of it.

This is where the opportunity for real creativity lies. If as a nation we are to be concerned about natural beauty, then as a nation we need first to discover it. And there is no better time than now, when it's spring outdoors, and the whole glorious world in which we live begs to be heard, seen, felt and loved.—J. F. Mc.

Comments on Licenses

FIRST let me say how much I enjoy reading *Virginia Wildlife*. I have never received a better value for my money.

My main reason for writing, however, is to suggest a change in the effective dates of the Virginia fishing license. Your February editorial stimulated me into action.

It is my firm belief that the effective dates of the Virginia fishing license should be changed to include one entire calendar year rather than the state's fiscal year it now covers. As it is now, one has to buy a new license right in the middle of the season, causing some inconvenience to the fisherman. The fisherman also runs the risk of forgetting to buy a new license and being caught fishing illegally. Most people don't normally think of buying a new license right in the middle of a hunting or fishing season.

Your editorial also stirred another response. I agree with you that we get what we pay for. And, I don't believe that the increased license fees that are being proposed would result in an undue burden on most sportsmen. However, I don't believe that the sportsmen should have to bear the entire cost of the program of the Commission of Game and Inland Fisheries.

The entire economy of the state is stimulated and expanded through the expenditures made by sportsmen for boats, fuel, hunting and fishing tackle and supplies, meals, lodging, etc. Furthermore, the program of the Commission conserves our streams, forests, fields, and wildlife for the general public to use and enjoy, and helps preserve the beauty of the countryside.

The Commission's program helps conserve our natural resources for future generations. This objective, I believe, has generally been recognized as a benefit to and a responsibility of the general public. Therefore, the program should, in my opinion, be at least partially supported by appropriated tax funds rather than putting the entire burden on sportsmen.

John T. Haas
Springfield

I was very much interested in your recent editorial in the February issue of *Virginia Wildlife* entitled "We Get What We Pay For." I would like to paraphrase this title and say confidentially that "We Get *More* Than We Pay For."

In my opinion all the sportsmen of Virginia, including fishermen, hunters and boatmen, receive many times the value of the small sums involved in our present hunting and fishing licenses.

The Virginia Commission of Game and Inland Fisheries has done an outstanding job for our state and many sportsmen from neighboring states have often expressed this view. We must all work to assist the Commission and provide them with the funds to continue their excellent work—a job that we are all very proud of.

Eugene S. Groseclose, M. D.
Lynchburg

QUAIL FARMING IN THE COVERTS

By DENNIS HART
Game Farm Manager

SPORTSMEN, farmers and shooting preserve operators are showing a lively interest in ways of *augmenting* natural annual crops of game birds in order that more birds may be bagged during the hunting season, and the Commission of Game and Inland Fisheries is experimenting with various promising techniques.

Game Division Chief, R. H. Cross, was impressed with a practice employed by Mr. Gene Wood, a Virginia dog trainer, and he directed that it be given a trial on representative quail areas in Virginia. Equipment models and basic techniques were provided by Mr. Wood.

The objective is to obtain extraordinary nesting success by pen-raised birds released in the spring in natural cover, and thus produce a number of wild-raised summer and early fall coveys far in excess of the number of coveys that normally result from the productivity of the overwintering wild quail population. The techniques involve thoroughly familiarizing the paired, pen-raised birds, prior to their final release, with a carefully chosen area in which they will eventually nest; and causing them to form a strong territorial attachment to the area by encouraging them to return at will to the point of release for the food, water and shelter to which they were accustomed while in their game-farm environment.

A releasing pen, as illustrated, is used. It is 30 inches by 40 inches. Twenty inches of the overall length is coop, the remaining 20 inches porch. The whole unit has a wire floor of 1/2-inch mesh, 20-gauge, hardware cloth. Edgestrips under the floor keep it above the ground about two inches.

The coop is for shelter, feed and water. It is constructed of 3/4-inch plywood. The one-piece lid is hinged at the front and fastens at the back with hook and eye. Two 4 1/2-inch holes or archways allow passage between coop and porch.

An exit from the porch into the coverts is provided by a 4 1/2-inch opening at the end; this is closed by either a slide-

The releasing pens consist of a plywood coop providing shelter, food and water; and a screened porch from which the birds can be released and which they can reenter at will.

Commission photo by Kesteloo



Commission photo by Kesteloo

Releasing pens are located in carefully chosen nesting cover, and the birds encouraged to form a strong territorial attachment prior to final release.

up or side-hinged door. A wire cone is installed in a hole in one side of the pen to allow quail to reenter voluntarily. The reentry opening is 4 1/2 inches in diameter. The cone is 10 3/4 inches long and tapers to 3 1/4 inches in diameter. It is inclined upward so that the entering quail drops down 3 1/2 inches to the porch floor. This minimizes the chances for the confined quail to escape through the cone.

In use, one of these pens is placed at good refuge cover in quail habitat that offers good nesting sites. This should be done about the middle of March. Two or three hens and one or two bobwhite cocks are placed in the pen with feed and water. In preparation, two or three clusters of evergreen branches are arranged within the coop to provide hiding retreats and prevent fighting injury.

After about five to ten days of confinement some of the cock quail are allowed to escape through the porch door into the coverts. They scout the surrounding habitat but remain in calling contact with the confined hens, and ere long, for companionship and feed and water, they will, as a rule, voluntarily reenter the pen through the reentry cone. After such introductory releases, hens, too, are released. Finally, all birds are allowed out, and the porch door is secured in the open position. Birds revisit the pen for supplementary feeding, while they proceed to establish nests in the immediate area to which they have already become accustomed. Feeders and waterers are large enough so that feeding service need be given only as the pen is visited for other essential purposes. Making a pathway to the pen

After five to ten days of confinement, the cock quail are let out to scout the territory. This results in familiarity with the habitat and the formation of territorial attachments prior to the release of the hens.

Commission photo by Mosby



VIRGINIA WILDLIFE

is avoided, as this will attract predators.

By thus fostering augmented quail nesting in suitable areas, and preserving undisturbed the selected areas for nesting and rearing throughout the summer season, exceptionally heavy summer-fall populations are brought about. It follows that such areas and environs yield an unusually high hunting season harvest without decimating the quail population below the normal winter carrying capacity of the habitat.

During the 1965 experimental demonstration by Game Commission biologists and cooperators, forty hens were augmentatively established in three representative areas, and these trials demonstrated above normal brood rearing. The few difficulties experienced were, for the most part, the result of inadequate prior removal of stray cats, self-hunting dogs, and other predators of eggs and young.

The project involved three distinct locations. One was on



Commission photo by Kesteloo

Above: Wire cones installed in the releasing pens allow the exploring cock birds to enter at will and rejoin the confined hens.

Below: Eventually cocks and hens are released together. They nest nearby and return frequently to the familiar pen for food, water and shelter.



Commission photo by Kesteloo

Familiar food, water and shelter offered in the open pen after birds are released is a major factor in fostering territorial attachment and improving survival among captivity reared breeders.

the Cumberland State Forest in Cumberland County, and was cared for by State Game Farm personnel. A second was at the Game Commission's Powhatan Wildlife Management Area under the supervision of biologist John B. Redd, Jr. The third demonstration segment was at Camp Pickett under a cooperative game management program. Here fourteen coops were consigned to Sergeant Carol O. Martin, who did an outstanding job, effecting, it is estimated, the establishment of nine new broods within his project area. It is estimated that the feed and equipment cost was *five cents per young bird* added to the coverts.

Several conjectural factors may be encountered in this system. Two hens and one cock quail per pen is a combination likely to give good results. Double this number will give good results under favorable circumstances. Placement in the pen prior to normal mating season will allow the birds to become adjusted to each other and less likely to fight. Mid-March is approximately optimum. Pens usually should be located in quail deficient areas, because if there are many native quail close by the cocks will invade the pens and fight with the confined cocks. On the other hand, if these pens are being used in already well stocked areas, only hens may be put in them. Difficulty is sometimes experienced in getting cocks out of the pens apart from the hens. Also, at times, in order to prevent their too early re-entry, they must be driven or flushed to a considerable distance.

Adeptness of the system operator and his close attention for a few days are very important. This adeptness is something to be developed through trial and error and experimental observation. Genuinely interested persons may expect fair results the first season, with better results in succeeding years.

Quail farming in the coverts means more summer broods and more birds bagged in the fall, but is not expected to increase the overwintering population.

Commission photo by Kesteloo



Trout

By R. G. MARTIN
Chief, Fish Division



"OPENING day" has become an institution. Some dawn clear and bright and promise shirt-sleeve weather before noon. Others arrive, almost reluctantly it seems, through leaden skies and pelting rain; and some are cold enough to give a bear the ague. But come what may, on opening day, where there are trout there will be fishermen of every age and configuration, lining the banks, wading pools and riffles, and lashing the water with tackle of every imaginable description. Opening day, like spring itself, is the long awaited new beginning. After the beginning, things taper off rather rapidly.

Geographically, Virginia lies on the border of the natural range in eastern United States. Under primeval conditions, long gone, some mountain streams in our state once carried water of such quality and quantity that trout could live the year around, reproduce, and grow to respectable size. But under the best of conditions Virginia trout streams on a whole have always been limited in their productivity. Today even our best streams are barely marginal with respect to temperature and volume during the late summer months. Natural reproduction never has and never will provide a bountiful trout harvest for as many anglers as now look forward eagerly to April and opening day! Trout fishing as practiced in Virginia today is dependent upon a large-scale hatching, rearing and stocking program.

In past years there have been several major complaints by critics of the trout program. Chief of these was too much effort and money was being spent on the program in relation to revenues. This complaint was well justified in the mid-fifties, when revenue attributable to trout fishermen was less than 9 percent of the total fish license revenue and over 37 percent of all fish division expenditures were spent directly for rearing and stocking trout. However, this condition has been corrected, and trout revenues and expenses brought into balance. This improved fiscal situation was due to two factors: (1) an increase in trout license revenue, and (2) increased efficiency of hatchery operations which allowed for a *three-fold increase* in trout production with *less than a one-quarter increase* in trout expenditures. The cost of trout has been reduced from \$1.47 a pound to 57¢ a pound. More efficient utilization of manpower and better diet and disease treatment are chiefly responsible for the cost reduction.

Another criticism of the trout program voiced by the

trout anglers was that the program offered little variety and consisted chiefly of one good opening day fishing following the preseason plantings. Carefully documented studies proved that this complaint was well justified. Ninety percent of the trout creel in the entire season were being taken within nine days of the season's opening. Seventy-five percent were taken the opening half day and the following Sunday. Trout streams were largely vacant of both fishermen and trout after the first week. Stocking all of the trout preseason with antiquated distribution units necessitated beginning stocking shortly after January 1 and continuing up until the season opened. The fact that trout were in the streams for such a long period before the opening of the season was an open invitation to poaching and predation losses. Also, the surviving trout were in poor condition by opening day.

These conditions have been alleviated considerably by the adoption of an inseason stocking program and the development of improved distribution techniques and equipment. The innovation of closing the season briefly in May to allow restocking eliminated the criticism of "truck following" inherent with most inseason stocking programs.

The method of selecting streams and determining proper stocking rates has also been improved by making these decisions the responsibility of the regional field biologist working in close cooperation with local game wardens. No stream is added to the stocking list without complete field investigation. Estimates of the number of opening day fishermen are made each year, and this factor, along with stream size, quality and accessibility, are the criteria used to determine stocking rates.

While the above factors have greatly improved the conventional put-and-take program, the inherent basic weaknesses of the catchable trout stocking program involving cost, hatchery production potential, and the ever increasing number of anglers will always limit the effectiveness of the

program. For example, although 650,000 catchable size trout reared at state hatcheries and an additional 250,000 catchable size trout reared at federal hatcheries were stocked during the 1965 season, this impressive 900,000 figure amounted to only nine trout per season for the estimated 94,000 trout anglers. These anglers include 70,400 licensed fishermen with remaining 25 percent being under 16 and over 70. This is just over *one daily limit* of trout per angler for the *entire season* and represents the maximum number of trout the existing license fee structure will support.

It is expected that the put-and-take program will be stabilized at about its present level, and greater effort directed toward other phases of the trout program. For example, in recent years fingerling reservoir stocking has added trophy trout, up to seven pounds in three years, at moderate additional expense. "Pay as you go" fishing at Clinch Mountain has provided an additional 22,000 fishing trips and some 60,000 trout in the creel without increasing demands on license revenues. Additional facilities located in other sections of the state are urgently required. "Catch and release" programs (fish-for-fun) have offered the traditional "wild trout" fisherman increased fishing opportunity, and another stream (Cedar Creek in Russell County) has been designated for this type of angling this year. The introduction of brown trout has offered additional variety, and in future years may provide additional trophy wild trout fishing in a few suitable streams.



Photo by Mrs. Rinehart Leu

1966 In-season Restocking Plan

LEGEND:

*—National Forest Streams
R.—River
C.—Creek
Br.—Branch
Fk.—Fork

Species Stocked:
B—Brook Trout
R—Rainbow Trout
BR—Brown Trout

ALBEMARLE CO.

Moormans R., N. & S. Fk.

	May	June
Moormans R., N. & S. Fk.	R	

ALLEGHANY CO.

Jackson R., Gathright Area
Potts C.
Blue Springs Run
Simpson C.*
Smith C.*
Clifton Fge. Reservoir*
Pounding Mill Run*

Jackson R., Gathright Area	R, BR	R, BR
Potts C.	R, BR	
Blue Springs Run	B, R	
Simpson C.*	R	
Smith C.*	R	
Clifton Fge. Reservoir*	R	
Pounding Mill Run*	R	

In spite of increased efficiency and drastically lowered costs of production, a single day's creel limit per angler per season is about all that trout fishing revenues from put-and-take streams will pay for.

Commission photo by Kesteloo



AMHERST CO.

S. Fk. Piney R. & Piney R. Proper
Pedlar R., upper
Pedlar R., lower
North Fk. Buffalo R.
Brown's Mt. C.*
Davis Mill C.*
Enchanted C.*
Little Irish C.*
Pedlar R.*
Rocky Row Run*
S. Fk. Piney R.*
Statons C.*

S. Fk. Piney R. & Piney R. Proper	B, R, BR	B, R, BR
Pedlar R., upper	B, R	B, R
Pedlar R., lower	B, R	B, R
North Fk. Buffalo R.	B, R	B, R
Brown's Mt. C.*	R	
Davis Mill C.*	R	
Enchanted C.*	R	
Little Irish C.*	R	
Pedlar R.*	R	R, BR
Rocky Row Run*	R	
S. Fk. Piney R.*	R	R
Statons C.*	R	

AUGUSTA CO.

St. Mary's R.
Johns Run*
Back C.*
Kennedy Run*
Lower Sherando*
North R.*
Buffalo Br.*
E. Dry Br.*
Jerkentight C.*
Ramsey Draft*

St. Mary's R.	R, BR	B, R, BR
Johns Run*	R	
Back C.*	R	
Kennedy Run*	R	
Lower Sherando*	R	
North R.*	R	
Buffalo Br.*	R	
E. Dry Br.*	R	
Jerkentight C.*	R	
Ramsey Draft*	R	

BATH CO.

Bullpasture R.
Jackson R.
Back C.
Back C. Gorge*
L. Prong Wilson*
Mares Run*
Piney R.*
S. Fk. Pads C.*
Muddy Run*

Bullpasture R.	R, BR	R, BR
Jackson R.	R, BR	R, BR
Back C.	R	
Back C. Gorge*	R	R
L. Prong Wilson*	R	
Mares Run*	R	
Piney R.*		
S. Fk. Pads C.*	R	
Muddy Run*	R	

BEDFORD CO.

Hunting C.*
Battery C.*

Hunting C.*	R	R
Battery C.*	R	

BLAND CO.

Wolf C.
Laurel Ck.
Lick C.
No Business C.
Lick C.*

Wolf C.	R, BR	R
Laurel Ck.	B, R	
Lick C.	R, BR	R
No Business C.	B, R	
Lick C.*	R	R

(Continued on page 26)

Dedicated To The Preservation Of Our Outdoor Heritage

The Virginia Wildlife Federation

By BOB GOOCH
Troy

IT was high noon, 1952. The cold war, which had reached a boiling point in the Korean "police action," had cooled to a simmer.

On the political front, General Dwight D. Eisenhower, hero of World War II, was engaged in another battle; this time for the Presidency of a postwar United States.

The Honorable John S. Battle was Governor of Virginia.

In the Old Dominion prosperity was near a peak. Riding the crest of a population explosion, business was booming and morale was high.

On the lighter side of life, recreational interest was turning more and more toward the outdoors. In a more serious vein, many outdoorsmen were concerned as to the ultimate effect this growing interest in hunting and fishing would have on our wildlife resources.

It was in this climate that the Virginia Wildlife Federation, a state-wide conservation organization, was born and assumed its position in the development of Virginia outdoors policy.

The Izaak Walton League was already strong in the state, and across Northern Virginia there existed a well knit federation of sportsmen's clubs. Still, many excellent clubs in the state had no connection with either of these fine groups. In addition there were many individuals and organizations other than sportsmen's clubs just as interested in the conservation of Virginia's abundant outdoor resources.

Most of these organizations had common objectives, but were bogged down because of the lack of coordinated effort. Working alone and in small groups throughout Virginia's vast outdoors, they met with discouragement and frustration. The Federation hoped to affiliate these groups and thereby assist them in overcoming their problems, but still permitting them to retain their identity and independence.

Reporting on the birth of the Federation, the late John H. Gwathmey, long time outdoors editor of the *Richmond Times-Dispatch*, wrote: "The Virginia Wildlife Federation has been launched under good auspices. It is hard to see how any movement could be of more lasting benefit to the conservation-minded citizens of Virginia, if its objectives are reached. There is really no good reason why this organizational effort should not succeed. If so, it would be in a position to satisfy a need which has long been recognized."

The organizational meeting of the Federation was held in Richmond on October 26, 1952.

Dr. William A. Pennington, a general practitioner and outdoorsman from the rolling hills of Buckingham County, was elected the first president. Now a member of the House of Delegates, he serves on the Federation board and is still very active in the affairs of the organization. In addition to

Dr. Pennington, two vice-presidents, an executive secretary, a recording secretary, a corresponding secretary and a treasurer were selected.

Also installed at that first meeting was a board of directors representing all areas of the state. To provide for proper representation of the board, the Commonwealth was divided into 46 Virginia Wildlife Federation Districts with at least one seat on the board allotted to each district.

The Virginia Wildlife Federation was affiliated with the National Wildlife Federation and one of its officers designated as national representative to that organization.

All officers and directors serve without pay.

In addition to the annual meeting held in October, board meetings are held in January, April and July of each year. The January meeting is normally held in Richmond and the others at various points throughout the state.

The objectives of the Federation are broad and ambitious. Article III of the Federation Constitution lists them as follows:

"(a) To encourage protection and restoration of waters, wildlife, forests and field; safeguard public health by eliminating pollution, discourage unwise drainage and seek wise



land and water use in broad public interest; nurture and improve wildlife stocks; restore and rehabilitate wildlife environment.

“(b) To seek more intensive education of the whole public, youth and adult, in recognizing resource conservation as vital to our way of life and its preservation; to emphasize the parallel between economic prosperity and the maintenance of adequate resource backlog.

“(c) To sponsor and support programs designed to end methods and activities destructive to natural resources and to institute methods seeking to replenish and renew a sound resource economy.

“(d) To cooperate with county, state, federal and private agencies of resource management, in improving and strengthening basic resources and in husbanding them through wise utilization.

“(e) To promote highest standards of sportsmanship and to strengthen farmer-sportsmen understanding.

“(f) To develop and constantly seek to improve a statewide, long-range program to stimulate and encourage greater public interest in resources.

“(g) To develop greater outdoor opportunity for all, as essential to character building and to the physical and spiritual welfare of the public.

“(h) To promote organizations of city, community, county and regional interests having like aims, giving them aid, counsel, and support in resolving problems of local, community or state import.”

Early plans included the establishment of a full-time office in Richmond to be manned by an executive director. It was felt that the services of such an individual were necessary if the goals of the organization were to be achieved.

The Federation is composed of affiliate member groups of wildlife or conservation organizations having regularly organized and dues paying membership of eight or more persons. These are the voting members of the organization, the people whose thinking the Federation attempts to reflect. It is from these members the Federation draws its officers and directors.

The affiliates are represented at annual meetings by voting delegates. Annual dues paid to the Federation are based

on the total membership of the affiliate, the rate being twenty-five cents per individual.

In addition to the affiliates, the Federation constitution provides for several non-voting classes of membership.

A sustaining member may be any organization, business firm or individual who, because of their or his interest in the aims of the Federation, shall contribute ten dollars or more per year into its treasury.

A contributing member shall be any individual who, be-



cause of his interest in the aims of the Federation, shall contribute at least two dollars, but less than ten dollars per year into its treasury.

A Life Member shall be any individual who because of his interest in the aims of the Federation shall pay a sum of not less than twenty-five dollars into its treasury for the specific purpose of obtaining such Life Membership.

An insurance member shall be any member of the Virginia Wildlife Federation who, because of his interest in the

aims of the Federation, shall pay a sum of five dollars into its treasury for the specific purpose of obtaining a Virginia Wildlife Federation personal accident insurance policy.

Many sportsmen's clubs were quick to come into the fold. One of the first was the Alleghany Fish and Game Protective Association of Covington. Space does not permit listing all of the fine organizations that have affiliated with the Federation, but representative of the membership are such clubs as the Fauquier Beagle Club, Tidewater Anglers Club, Virginia Bowhunters Association, Fairfax Wildlife Club, Inc., Fluvanna Wildlife, Inc., Hampton Roads Coon-hunters Club, Wakefield Community Hunt Club, Lovettsville Game Protective Association, Virginia Society of Ornithology and Chesapeake Hunt Club.

There are still many fine groups that have not affiliated with the Federation and recruiting new members is a continuous task for Federation officers and directors.

The Federation Record, the official publication of the Federation, is published eight times a year. Distributed to member clubs, it attempts to keep them abreast of Federation activities and alerted to other activities that threaten our wildlife resources.

Since its organization, the Federation has worked very closely with the Commission of Game and Inland Fisheries. Recognizing the excellent technical abilities of the Commission staff, the Federation through its understanding of sportsmen has contributed primarily in the area of public relations and education. Its activities have also brought it in close contact with other state and federal agencies in the approach to such problems as pesticides, water pollution, drainage of waterfowl habitat, rehabilitation of mining areas, and reforestation.

The Federation has successfully proposed longer hunting seasons west of the Blue Ridge. These proposals have been made in the light of modern game management practices and our game resources have not suffered as a result of the more liberal seasons.

Recognizing the high sporting qualities of bowhunting, the Federation has worked for the advancement of that sport and secured special regulations for the many sportsmen who have joined the archery ranks.

The Federation proposed and actively supported the law which made illegal the use of electronic calling devices for ducks and geese.

The acquisition of public hunting lands has long concerned the Federation, and its leaders have worked with the Commission of Game and Inland Fisheries in this program. Thousands of acres of such land have been acquired by the

Commission in recent years and are now being managed for wildlife.

Every March for years the Federation has assumed the responsibility for the Virginia phase of National Wildlife Week.

Standing committees composed of Federation officers and directors best qualified in various phases of conservation work, remain alert for matters that need the attention of the organization.

As the Federation enters 1966 and its 14th year of service to the outdoor way of life, L. R. Gardner of Norfolk is at the helm. He was elected president at the Federation's annual meeting in October.

A highlight of the year 1965 was the recognition by the Federation of outstanding conservationists in the state. These people were honored at a Richmond banquet sponsored jointly with the Sears Roebuck Foundation and attended by Governor Albertis S. Harrison, Jr., and Mrs. Harrison. State Forester George W. Dean, who was named Virginia Forest Conservationist of the Year, later received national honors when in January 1966 he was recognized by the National Wildlife Federation and presented a trophy by Mrs. Lyndon B. Johnson, wife of the President.

While the Virginia Wildlife Federation's record has been a good one, it has not accomplished all that its founders envisioned for it. While Ernest J. Foldi of Harrisonburg has recently accepted the position of Executive Director, a full time office in Richmond is still an unrealized dream. The lack of finances has prevented this important move.

The years immediately ahead will present many challenges to the Federation, just as they will to other organizations, government agencies and individuals interested in the problem of providing adequate outdoor recreation for a rapidly growing population. Interest in outdoor recreation did not level off back in 1952. On the contrary, such interest is increasing at an alarming pace. There are also many conflicting interests to cope with. In the face of such demands our wildlife resources cannot be taken for granted.

Except for a few newcomers, the offices and seats on the board of the Federation are filled by a hard core of charter members. They have been at it a long time, and while they are not about to give up, they need help. There are still many eligible organizations that have not sought affiliation, and in addition there are many areas of the state where local conservation organizations need to be started.

The fine work that the Virginia Wildlife Federation is doing should continue to bear fruit. Its objectives are ambitious. The help of those with common interests is needed.





Sixteenth in the series of articles on some of the favorite angling hot spots in Virginia.

JENNINGS CREEK

By OZZIE WORLEY
Roanoke

SEVERAL hundred yards beyond the Botetourt County village of Arcadia lies a deep, inviting fishing hole. To reach it, Jennings Creek must pound and splash against and through a veritable barricade of boulders. It's worth the effort, because the hole below the rocks is a trout fisherman's dream spot. This pond, which some people incorrectly insist is bottomless, is one of many which help rank Jennings Creek as one of the top trout streams in Virginia.

Jennings has had me hooked for more than 25 years. When I became addicted to this stream as a boy, I was naive enough to think that garden hackle was the *only* bait for trout. I lived within walking distance of the creek, and came to know its moods and its best spots intimately.

Things have changed since then. Many stretches of Jennings were all mine when I sallied forth trouting in the springtime. Now, I sometimes have to pass up favorite holes because of the competition. The daily creel limit then was 20. Now it's 8. The number of native trout has dwindled, too.

However, physically the stream—and the forest through which it tumbles—has changed very little over the years. The only alteration, really, has been the hard-surfacing of several miles of the secondary road that parallels it. This is, or is not, an improvement, depending upon how you look at it. It's a boon to the permanent residents on upper Jennings Creek, and to those who like easy access to the Jefferson National Forest. But it also means that those who formerly avoided the stream, because of the dusty, rutty dirt road, now have no hesitancy about using it—meaning more trout fishermen.

The greatest part of the creek flows through the national forest, with the only privately owned lands near the beginning and the end of the stream. Little of the water is off limits.

At the point where North Creek enters Jennings, anglers have a choice. According to the signs there may be trout in almost any direction.



Jennings forms high up in the mountains, not far from a settlement that was called Munford Post Office. If you walk up the narrow, twisting road past Munford far enough, you'll be close to the Peaks of Otter. From its headwaters until it tumbles five or six miles to empty into the James River below Arcadia, the stream is a trout angler's delight. There are long stretches of riffles. There are quiet pools hemmed in by rocks. There are niches under the banks where trout like to lie. And there are the ponds under the bridges.

These spans deserve special mention. Up and down the creek there are approximately a dozen of them. They are of wood construction with railings—the kind where the boards rattle and creak when an automobile crosses them. There's hardly a one of them that does not have a trout hole beneath it. The truth is, you have to watch your driving on the opening day of the season or run the risk of striking one of the scores of fishermen who have staked out the bridges. Due to the crowds clustered about them, I usually pass them up.

Man is a creature of habit, an old saw goes, and during my long courtship with Jennings Creek this certainly has been the case. I like to fish the same stretches of water that I fished as a boy. This takes me to a two-mile section near the place that McFalls Creek, another trout stream, locks with Jennings. There's a good hole where the two streams meet. In fact, I landed one of the very first trout of my life right there, using a fat worm for bait.

Usually, I park my car among some pine trees near the confluence of McFalls and Jennings, and hike upstream for a couple of miles. I fish downstream towards the car. My initial cast nearly always is into a piece of water that is deceiving. It is shallow and appears to be barren of trout. However, a closer look reveals indentions under the banks which provide cool, sheltered spots for the fish. My best bet has been to pull a spinner, a Flatfish or live bait along the lip of the bank. The trout dart from their hiding places and make a play for the offering.

(Continued on page 21)

Mrs. Marie Smith and Mrs. Hedy Philpott, sisters, of Roanoke, had four nice rainbows when I snapped their picture. When I passed them later, near quitting time, they had added three more.



TROPHY CROW HUNT

JAYCEES STAGE ANNUAL COMPETITIVE SHOOT
IN VIRGINIA - NORTH CAROLINA AREA APRIL 23.

By MALCOLM M. BOREN
Greensboro, North Carolina

SOME people are satisfied to develop woodcraft and hunting skills solely for the pleasure derived from practicing them in solitude. To others, competition adds spice to any endeavor, even to the calling and shooting of crows.

The Southeastern Crow Shoot and Calling Contest will be conducted for the second straight year by the Henderson, N. C., Junior Chamber of Commerce. Headquarters will be the National Guard Armory in Henderson, North Carolina. The first event will be the Calling Contest on April 22 at the armory with registration set at 6 p.m. (EST) and the contest to follow at 7 p.m. Two shooting classes will be run on Saturday, April 23, starting with the singles class at 7 a.m.



Area to be hunted lies in Virginia and North Carolina, within a fifty mile radius of Henderson. Each hunter must be properly licensed to hunt on whichever side of the state line he chooses to work.

A drawing at the armory will determine a starting point and a Jaycee to go along with each contestant as driver-referee. The doubles class will get underway after lunch and the shooting time for both classes will be two and one-half hours each. Scoring will be by the number of birds retrieved.

Both classes allow the hunter to pick his stands and direction traveled after leaving a starting point. The purpose of a starting point is to help prevent shooters from overlapping in various areas. The Jaycee driver keeps a record on a county map of all roads traveled so that the doubles team can steer clear of worked-over areas. Sometimes an active hunter can work in up to eight separate hunting stands in an hour. Depending on how a contestant routes himself, the usual miles traveled add up to better than

one hundred with driving to the starting points and returning to the armory included.

In the 1965 contest, sportsmen participating for the first time in competitive shooting found several differences from the ordinary type of crow hunting. Getting in and out of the woods in a hurry often posed a problem. Too fast a pace into the cover shortened one's wind for calling purposes, and often poor selections were made for proper concealment with just the necessary opening directly overhead. Usually, hardwoods were avoided, particularly where heavy undergrowth was present. Thick low pines were a favorite and the majority of North Carolina and Virginia areas (fifty miles around Henderson) have an abundance of good



Photo by Staffords of Henderson
Display of singles class trophies with Billy Williams, Henderson, N. C., Jaycee president, pointing to the first place prize. Twelve other trophies will go for doubles class and crow calling contest.

pine cover throughout the year.

The only assistance comes from having a driver to pull up or back out of sight each time a stop is made and to return on signal. Some special call on the crow caller or a whistle serves the purpose of attracting the driver. All of the callers have to be of the mouth variety.

A complete list of rules, time schedules and entry forms are available by writing to Mr. Billy Williams, Box 772, Henderson, North Carolina. A modest entry fee and a hunting license will qualify any Virginian choosing to work the Old Dominion side of the hunting territory.

There is some work in this sort of thing—but it is also lots of fun!

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

10 COUNTIES DROPPED FROM GOBBLER SEASON. A two-week spring gobbler season was approved by the Commission of Game and Inland Fisheries for seventy Virginia counties from April 23 through May 6. Ten counties were dropped from the proposed list at the request of the local boards of supervisors.

Hunting will be allowed from one-half hour before sunrise until 10 a.m. each day (except Sundays). Hunting is to be by calling only. Dogs and organized drives are prohibited. This year's season will be five days longer than the similar season last spring.

Counties included on the open list were Albemarle, Alleghany, Amelia, Amherst, Appomattox, Augusta, Bath, Bedford, Bland, Botetourt, Brunswick, Campbell, Caroline, Carroll, Charles City, Chesterfield, Clarke, Craig, Culpeper, Cumberland, Dinwiddie, Essex, Fairfax, Fauquier, Floyd, Fluvanna, Franklin, Frederick, Giles, Grayson, Greene, Hampton (city), Hanover, Henrico, Henry, Highland, King George, Loudoun, Lunenburg, Madison, Mecklenburg, Montgomery, Nelson, New Kent, Newport News (city), Nottoway, Orange, Page, Patrick, Pittsylvania, Powhatan, Prince Edward, Prince George, Prince William, Pulaski, Rappahannock, Roanoke, Rockbridge, Rockingham, Shenandoah, Southampton, Spotsylvania, Stafford, Surry, Warren, Wythe, York and those portions of Smyth, Tazewell and Washington counties lying outside the bounds of the Clinch Mountain and Hidden Valley Wildlife Management Areas.

3,043 TURKEYS BAGGED IN STATE. Hunters bagged 2,157 turkeys west of the Blue Ridge during the six-week season in 1965. Although it was slightly below the 1964 high mark, Commission biologists are quite pleased that the kill held up at this level. Good general habitat conditions coupled with excellent hatches are the apparent reasons behind the turkey boom in this section.

Although the 1965-66 turkey kill of 886 in eastern Virginia was only slightly better than the 1964-65 bag, there are indications of at least temporary improvement in the turkey situation in this section, according to Game Commission biologists.

A reasonably good turkey hatch was reported over most of eastern Virginia for the first time in about five years. Increased numbers of young turkeys were observed in the late summer and fall, and a greater number of young turkeys appeared in hunters' bags last fall. Some counties in the western Piedmont showed marked improvement. A good carry-over of birds was predicted by biologists in most sections. The 30-day eastern season was adopted by the Commission in 1963 to hold down the kill in eastern Virginia and allow populations to build up.

EASTERN DEER KILL DOWN. Hunters bagged 14,871 in eastern Virginia during the season just ended, a slightly higher total than biologists expected. This still represents a sizable drop from 19,481 taken in this section the previous year when more liberal hunting regulations were in effect.

The bucks-only season in most Piedmont and several Tidewater counties was responsible for most of the decline. Kills in these counties dropped to about half of last year's take. Increased hunting pressure was evident in the Northern Neck area, probably because of the more liberal bag in this section, and the kill in most of these counties equalled or exceeded last year's totals.

Southampton County again led the east with a kill of 1,464 followed by Caroline with 937 and Surry with 920. The decline in Caroline County from last year's total of 1,258 was attributed to lower hunting pressure on Camp A. P. Hill.



This 19¾ pound channel catfish caught by Sgt. John Beauchamp, right, in Commission-owned Lake Brittle was a top 1965 catch.

By HARRY L. GILLAM
Information Officer

THE fishermen won another round in the battle of the big ones as six Trophy Citation contest records were toppled and one tied by entries received during the year. Although the total of 324 entries was lower than the number received last year, this was expected because of changes in minimum weights. The largemouth bass minimum weight was increased to 8 pounds, and this was calculated to eliminate about half of the previously eligible catches. This is just about what did happen as the entries in this class dropped from 194 to 87.

Entries in other categories increased considerably, notably in the chain pickerel and smallmouth classes. Brown trout activity picked up as lunker browns began turning up in Philpott and Carvin's Cove reservoirs. Last year's contest record was broken by three of the five entries, the largest of which was a 4 pound 13 ounce brown from Carvin's Cove reservoir entered by Ira Powell of Roanoke. Previous brook and rainbow trout records were not beaten during the year.

The largemouth bass record of 11 pounds 8 ounces set in 1963 was finally tied by a specimen entered by F. M. Laine of Petersburg. He caught the lunker while fishing with a cane pole and live minnows in a private Sussex County



D. W. Porter and his 21 pound 4 ounce flathead cat that topped this class in 1965.



The contest largemouth record equaled by F. M. Laine's 11½ County lunker.

RECORD

pond. Fourteen of the 87 entries received during the year exceeded 10 pounds in weight.

Entries picked up in the smallmouth class in 1965 with several of the fish exceeding the 6 pound mark, but none beat the 8 pound giant from Claytor Lake which holds the record. Most of the smallmouth hot spots around the state were well represented among the entries received.

Pickerel entries also took an upward surge, and the 7 pound monster taken from Lake Smith in mid-January by James Harcum of Norfolk easily toppled the record in this class. Most of the pickerel entries fell between 4 and 5 pounds. Chickahominy Lake, the city lakes around Suffolk, and private ponds in Tidewater Virginia continued to be the hot spots for big pickerel.

A 19 pound 5 ounce striper caught by Tommy Hunziker of Roanoke at Brookneal during the annual spawning run in the Roanoke River set a new record for landlocked rockfish. A number of entries from Buggs Island Lake exceeded last year's record of 16 pounds 8 ounces.

Commission-owned Burke Lake in Fairfax County was the hot spot for citation size bluegill, as evidenced by 13 entries from there which exceeded the one-pound minimum. The new record, a 2 pound 5 ounce from a private pond in Brunswick County, was caught by David Fleming of Richmond.

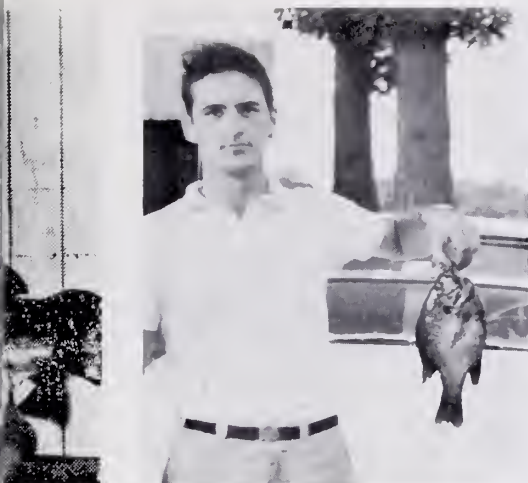
Leon Vaughan of Fairfax set a new carp record with a 36 pounder he subdued with bow fishing tackle and entered through the Springfield Archery Club. Records set in other non-game classes were not beaten during the year.

The walleye record was shattered by a 17 pound lunker from New River entered by W. C. Bradbury of Cambria. One other New River walleye, a 13 pounder, also exceeded the old 11 pound 12 ounce record.

The white bass and Kentucky or spotted bass categories again went begging for entries. Considerable numbers of both of these species are known to be taken from Claytor Lake and other Southwest Virginia waters.

This 7 pound pickerel taken by J. T. Harcum from Lake Smith set a hard mark for future anglers to beat.





was finally
und Sussex

D. A. Fleming of Richmond set a new bream record with this 2 pound 5 ounce specimen.



This 17 pound New River walleye caught by W. C. Bradbury is undoubtedly one of the largest ever caught in Virginia.



Ray Hunziker of Roanoke holds the 19 pound 5 ounce striped caught by his son at Brookneal. This is the largest freshwater specimen entered to date.

BUSTERS

With the addition of a 6-pound minimum citation weight for muskellunge, anglers will have a new class to enter. Some of the fish stocked experimentally by the Commission of Game and Inland Fisheries in Smith Mountain Lake and other state waters are expected to reach this size during 1966.

TOP 1965 FRESH-WATER CITATION FISH

Species	Minimum	No. Entries	Old Record		Best 1965 Catch		Where Caught	Angler
			Lb.	Oz.	Lb.	Oz.		
Carp	20 lbs.	13	33	2	36	—	Fairfax County	Leon Vaughan
Channel Cat	10 lbs.	33	21	1	19	12	Lake Brittle	John Beauchamp
Crappie	2½ lbs.	4	4	8	3	6½	Beech Hollow L.	Melvin Cassell
Gar	10 lbs.	14	16	8½	15	—	Walkers Dam	Herbert Crockett
Grindle	10 lbs.	9	17	8	14	6	Chickahominy L.	Hugh Gibson
Largemouth	8 lbs.	87	11	8	11	8	Sussex County	F. M. Laine
Flathead Cat	20 lbs.	1	28	—	21	4	New River	D. W. Porter
Pickereel	4 lbs.	47	6	4	7	—	Lake Smith	James T. Harcum
Rock Bass	1 lb.	4	2	2	1	9	Clinch River	James Butcher
Smallmouth	4 lbs.	43	8	—	6	5	Claytor L.	H. D. Shelburne
Striped Bass	10 lbs.	28	16	8	19	5	Brookneal	Thomas R. Hunziker
Kentucky Bass	3 lbs.	—	—	—	—	—
Sunfish	1 lb.	27	2	2½	2	5	Alberta	David A. Fleming
Brook Trout	2 lbs.	1	3	2	2	0	Peaks of Otter	Parker B. Nance
Brown Trout	2 lbs.	5	2	12	4	13	Carvin's Cove	Ira G. Powell
Rainbow	5 lbs.	2	7	12	5	10	Carvin's Cove	Robert L. May
Walleye	8 lbs.	6	11	12	17	—	New River	W. C. Bradbury
White Bass	2 lbs.	—	2	5½	—	—
TOTAL		324						



A 3½ pound crappie, best of the year, caught by Melvin Cassell of Danville.



Parker Nance holds the 2 pound brook trout from Peaks of Otter Lake, largest 1965 entry for this species.



Right: Ira Powell and the 4 pound 13 ounce brown trout from Carvin's Cove that nearly doubled the old record mark.

SET HER UP FOR SPEED

AND PENNY PINCHING



Family type pleasure craft, driven by Eddie Graves of Roanoke's Valley Marine, shows her stern to the field in a race on Claytor Lake. Note minimum wetted surface of the hull, and high position and optimum tilt of motor.

By JIM RUTHERFOORD
Radford

DO you sometimes wish your boat had more "go"? Do you often feel that your outboard drinks so much gas that it must have been crossed with a thirsty camel? Do you wish your "rough rider" had a little less bounce to the ounce? When boating, wouldn't you like to see where you're going but can't because the bow rides so high you can't see over it?

Well, there are cures for all these conditions and infirmities; cures that will make your boating a lot more pleasurable, economical and comfortable.

Take the matter of speed. Very few boats, whether they be outboards, stern drives or conventional inboards, attain their full speed capabilities as delivered from the dealer. But don't blame him. After all, you may have made a close trade on your new rig. The dealer can't afford to spend the hours of labor necessary to gain maximum performance from each outfit. He simply doesn't have that much profit margin in the deal. Even if price is no object, few dealers can set up your outfit for your individual driving habits and uses, so that *you* will be getting the full performance capability from *your* quite individual outfit. The fine tuning, the finishing touches are up to you. Sure, there are some things best left to the capable hands of a trained mechanic, but even if you're all thumbs there is a quite a lot you can do to give your own rig more go for less dough.

Now don't get the idea that we are talking about the drag boats or "hot" boats or racing types. Nor are we talking about speed increases of 15 or 20 miles per hour from the average family type boat. However, the application of some or all of the set-up techniques to be outlined here can give you speed increases of 10 to 20 *per cent* and, by making your boat easier to push, will result in considerable fuel savings at normal cruising speeds.

Be sure your outfit is equipped with a good tachometer and a reliable speed indicator. The tach will give you an indication of *engine* speed (rpm) under all conditions of driving, and enable you to match engine and propeller to varying conditions of water, load and usage. The speedo, of course, will show you the increases or dropoffs in speed. Together, these instruments will allow you to put your boat in top form for speed and economy.

The depth that the propeller and gear case extend into the water plays an important part in attaining maximum efficiency with minimum drag. Standard transom heights on outboard boats are often not the best height for some motors. Increasing the effective transom height, through the use of wooden strips (called "rev sticks"), may increase rpm and power remarkably. The use of rev sticks can be overdone, however. It is best to start by gradually increasing the motor height with $\frac{1}{8}$ " and $\frac{1}{4}$ " strips, making a test run after each insertion, until maximum speed is attained *without cavitation*. The latter condition comes about when the propeller begins to operate in an air-water environment rather than in solid water. Often the removal of as little as $\frac{1}{8}$ " of strip will lower the motor enough to cure this



Left: Height of motor may be increased by use of rev sticks—blocks or strips that raise gear case and propeller to reduce water drag. Note typical tilt pin adjustment (lower center).

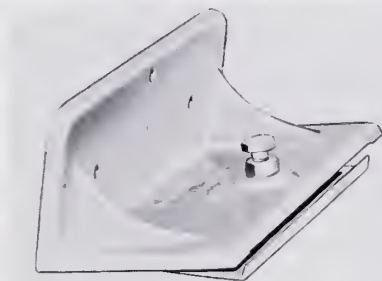
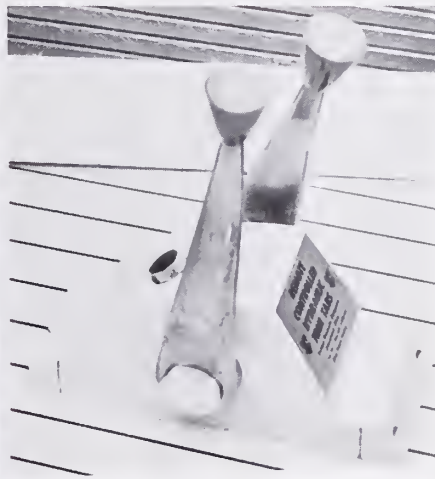
Right: Motor tilt is a critical factor in setup. This stern drive unit has power tilt for use underway. Most outboards, like the one in the photo at left, have pin adjusted tilt, changeable only while engine is not operating.



condition.

Motor *tilt*, or propeller *thrust* angle, has an important bearing on speed and efficiency and is closely related to propeller height. Before adding the initial rev sticks, it is best to select an average motor tilt angle as a starting point. Usually this is an angle that places the anti-cavitation plate of the lower unit parallel to an extension of the bottom. However, some boats seem to run a bit better with the lower unit tilted slightly astern of this point. Since swinging the lower unit back on its pivot point causes the propeller to swing somewhat closer to the water surface, it may be necessary to remove more rev sticks to prevent cavitation.

CAUTION: Make sure outboard motor clamps are tightened securely after each adjustment of rev stick height. When optimum height is determined, secure the motor to the transom through bolts and again tighten the clamps.



Left, above: Major components of hydraulic remote controlled trim tab system. Left, below: Fixed trim tabs, adjusted by pressure bolts. Trim tabs provide adjustable extensions of the hull that can help boats plane faster, offset motor torque, and correct for misshapen bottoms. Photos by courtesy of Tempo Products. Right: Roanoke dealer points to squat board installation (a form of trim tab) that compensates for weight of a heavy stern drive unit.



You may measure the total thickness of the rev sticks and replace them with a block of the same thickness if desired.

Be sure to test the turning characteristics of the boat before making a final decision on motor height adjustment. Often an outfit that runs really great on a straightaway will cavitate abominably on turns. Some cavitation on sharp turns, however, is actually desirable. The loss of power due to cavitation prevents the boat from being turned too sharply and getting into a flip-over situation. In any case the cavitation condition should correct itself when the helm is straightened slightly. Continuous cavitation allows the motor to overspeed dangerously and should be corrected immediately by closing the throttle. Lowering motor height and/or tilt should eliminate this condition.

Bottom friction is another speed and fuel stealer. Much of this may be eliminated through proper motor height and

tilt adjustment. Distribution of the boat's load of fuel, equipment and passengers also helps to allow the boat to run with the least possible amount of planing surface on the water. When watching a power boat race, sometime, notice how the racing craft have large areas of daylight visible beneath the hull. Many of these fast boats run with practically all of the bottom out of the water and with only the lower blade of the propeller biting the H₂O; almost the ultimate in friction elimination and one rarely accomplished with family type pleasure craft. This "riding on air" makes for a skittish boat, but a fast one for sanctioned racing.

Race drivers often wax the bottoms of their hulls to reduce possible friction when there is contact with the water. This would be a laborious procedure for the family boat owner. There are other, and better, ways.

Recently, the use of anti-friction bottom coatings has become popular. Coatings of graphite or the newer molybdenum disulphide reduce the boundary layer effect of the water and make a given boat-motor outfit far easier to push.

A week's growth of algae on your boat's bottom may cause a speed loss of as much as 10 miles per hour on a boat that has a normal top speed of 25-30.

A new bottom coating, called Super Glide C, reduces friction and eliminates algae at the same time. Application is easy with brush or roller. The very thin coating dries within an hour or so and is then burnished with a soft cloth to give the bottom a silvery, gunmetal color that is really s-l-i-c-k.

Super Glide cannot prevent the settling of silt on the boat bottom, and algae may attach itself to this mud coating. It is easily removed, however, with a few strokes of a

Nylon scrub brush. One application on my own boat last season increased the speed by a full 10 per cent.

Does your boat pound, slap or porpoise? Does it ride bow high at cruising speed, or take a long time to plane off into level running position?

Motor tilt (thrust angle) can cause all of these conditions. More often than not they are caused by improper trim: improper load distribution within the boat. Often this high riding and porpoising are caused by the installation of a stern drive unit in a hull designed for outboard use. The heavy weight of the inboard unit, with its accessories, weights down the stern so that the boat cannot assume a good planing position. Some manufacturers have tried to compensate for the stern weight by installing large capacity fuel tanks forward, a practice not recommended because of the danger of breaks in long fuel lines, tank ruptures due to constant pounding in rough water and explosive fuel vapors entering the bilge.

Even well designed outboard hulls are subject to this stern down condition when the buyer or the dealer insists on hanging a too heavy motor on the transom or adding heavy fuel tanks in the stern compartment or, worse, both at the same time.

Passenger distribution may also result in poor trim and a poor running boat. There is a happy solution to the problem in most cases. The answer is trim tabs, or after-planes.

Basically trim tabs are simply elongations of the boat's hull which effectively increase its length aft of the propeller. Such tabs or "squat boards" have long been used on larger boats but are now becoming popular on the smaller outboards and stern drives.

Fastened to the transom at its junction with the boat's bottom, the tabs increase the life of the hull in much the same manner as do the elevators on an airplane. A thin aluminum plate, adjusted by pressure bolts, allows the angle of lift to be varied from boat to boat to give the best planing angles. The tabs prevent porpoising, get the boat on plane faster and often increase speed.

Usually the first thing the new boat owner thinks about when trying for speed and efficiency improvement is the propeller. Certainly the right prop for your use is important, but face it; there just isn't a "right" prop. The best prop for highest speed (and economy) under conditions of light load, smooth water and a fast, high planing hull will completely bog down when you load several friends in your boat, pull up a couple of water skiers, or try for best speed on choppy water. The word for propellers is "compromise." Books have been written about propellers, but here are a few comments that may help you in your selection.

A propeller is essentially a water screw, or worm "gear," that couples the power of the engine to the water. The higher the pitch of this screw, the bigger bite it takes and the more power is required to turn it at a given rpm. The faster the boat moves through the water, the less power is required to keep it moving. Thus, a high pitch prop works like high gear or overdrive on a car. It will not give full power for getting underway, but may give your boat greater speed and thus greater economy once the boat is on plane.

Low pitch props take a smaller bite, thus are easier to spin and allow the engine to turn up its rated power rpm at slow boat speeds. The lower pitch props, for a given engine, allow greater power to be developed at *slow* speeds. Therefore, they are fine for boating with heavy loads or when

pulling water skiers.

Ideally, boat motors should be equipped with variable pitch or constant speed propellers. Unfortunately, no one has come up with such an item in a small enough package or at low enough price to make it practical or marketable. The compromise is about the best we can do.

So start off with your dealer's choice and experiment from there. If it's skiing power you want, drop down an inch or so in pitch. If you're after top speed with light loads, select a prop with an inch or so more pitch. Your tachometer will tell you when your rig is overpropped. The engine just won't turn up to its rated rpm.

A pair of props is the best solution. It takes only a few minutes to change from one to the other, and a spare is a



Books have been written about propellers, and small wonder. All types shown here are for the same make and model outboard. You only have to choose the right one for your boat-motor combination and type of use.

good thing to have around in case one is damaged. Thus, you will have a "speed" prop and a "load" prop; make your selection as your daily boating conditions dictate.

Once you have made your selection, keep your propellers in good condition. File out small nicks and rough edges and straighten slightly bent edges. Badly damaged aluminum props are a total loss. Bronze ones may be straightened, rebuilt, even changed slightly in pitch to suit your individual needs. They may also be "cupped" to increase efficiency and reduce cavitation in some cases. Just remember that

the propeller is the only link between your power plant and the water. Consider it carefully, for your consideration will pay off in speed, power and performance.

Consider, too, such things as spark plug condition. Clean, properly gapped plugs make a difference in fuel economy and performance. So does the condition of distributor points and engine timing. Have them checked by your dealer at least twice each season.

Make sure all wiring connections are tight and clean, and keep the battery in a good condition of charge. The power required to run your generator or alternator, while quite small, is power that would otherwise be used to push your boat.

Don't try to increase speed and performance by overpower-

Last year I purchased a new 16 foot outboard utility. We hung a 90 hp outboard on the transom and put the boat in for a test run. After break-in the speedo showed a top speed of 35 mph. We then started our setup-tuneup procedure.

First came the motor tilt and rev stick routine. The final block-up of the motor resulted in an increase of about one inch above the manufacturer's transom height. Super Glide C was applied to the bottom with a roller, and next morning it was burnished with a sheepskin pad. Back in the water the speedo showed an increase of 8 mph but with a tendency to porpoise. We installed a set of trim tabs. Net increase—2 mph, for a top speed of 45 mph! That's an overall increase of nearly 30 percent with the *same power*,



ing your boat. A boat designed for a maximum of 50 or 65 horsepower may not perform as well with 95 or 110. The extra weight as well as the higher power may spoil an otherwise good design.

Don't lose performance while your boat is in storage. Lack of keel support while the boat is stored may cause a hook or rocker to develop in the bottom. Hauling a boat on an ill fitting trailer may also cause these conditions. While trim tabs and afterplanes may help to make the boat manageable, it will never really be the same.

How much improvement you may expect from the setup and tuning tips I have mentioned depends on the individual hull and power combination. Results, however, can be dramatic. Here is an example.

A damaged prop can ruin performance and may ruin your power plant if excessive vibration is allowed to continue. Bronze prop, being installed, is reworkable. Damaged aluminum prop, removed, is beyond repair.

and the fuel savings at a normal cruise of 25 mph were astounding.

With the bottom brushed off about every 10 days during the boat's summer-long stay in the water, the top speed never dropped below 42 mph except once when improper fuel/oil mixture fouled the spark plugs.

Now (as I write this) the boat is stored with her keel supported along its entire length and the motor weight off the transom. Anyone for a friendly speed trial or economy run this season?

Fly Fish The James

By BERT LINDLER and MARVIN WILLIAMS
Williamsburg Richmond

I CREPT up to the quiet pool with my fly rod in hand. The water, only inches deep, was crystal clear. Kneeling at the tail of the pool, I shot a cast 25 feet upstream. The cast landed quietly, and as the line came drifting back, I stripped in the slack. The leader tip twitched; I struck, and was fast to a fish.

This is a description of fishing—not on the Rapidan River, nor on any other mountain trout stream—but on the James River, in Richmond. This river, within a few minutes reach of thousands of fishermen, remains virtually unfished. Sure, you'll find a few bait fishermen fishing off shoreline rocks, but very few fishermen take a fly rod in hand and wade the many pools and riffles of the James.

Yet the James has a diversity of game fish to offer the fly fisherman: carp, gar, pickerel, yellow perch, sucker, crappie, bluegill, largemouth bass, channel catfish, redbreast sunfish, and smallmouth bass are all present in the river, though redbreast sunfish and smallmouth bass are the fish of primary importance to the fly fisherman. The redbreast sunfish, the fly fisherman's most common catch on the James, resembles the bluegill in size and shape, but differs in coloration. This nonselective glutton strikes almost anything tossed at it. Though not spectacular, the fight of a sunfish is stubborn and insistent. Occasionally a large one runs, but more often it just races back and forth at the end of the line. The smallmouth bass, however, is the James' most important game fish. Smarter and larger than the sunfish, the smallmouth is more selective and harder to land. The James River smallmouth is a jumper. I once caught a bass that jumped up and fell on my popper when striking and jumped another six times while I was fighting him! The smallmouth's fight does not consist entirely of jumps, however; often the larger bass will make determined runs, taking line almost as fast as you can strip it. Though smallmouths of twenty to twenty-four inches have been caught in the James, the average bass caught on flies runs from eight to ten inches in length, and any bass longer than twelve inches caught on flies is a real trophy.

Since the river between Richmond's Coastline Railroad and Lee Bridges breaks into many small sections of different depths, a variety of fishing situations is always present. Middle May to Mid-October—the months that the river can be comfortably waded—presents three choices: fishing a topwater in quiet pools, fishing a streamer in brawling rapids, or fishing a nymph in slow shallows. Thus the James has enough different types of fishing to interest any fly fisherman.

The river's most productive water can only be reached by wading—a dangerous sport when carelessly practiced. The sensible fly fisherman will, however, find wading quite safe if he exercises caution. He must always keep sound footing; finding himself in water over his head, he should carefully wade out the way he came and skirt the area. The wader whose feet are swept out from under him should let the current carry him to safety. Expensive waders are not necessary for the James: old clothes and tennis shoes are entirely satisfactory. Flies can be carried in small plastic boxes and, together with extra leader material, securely

pinned in a short pocket. However, wading is neither safe nor comfortable during the entire year. Though the section of the river from the Boulevard to the Coastline Bridge is wadable from May to October, the section from the Boulevard to the Lee Bridges is too high for safe wading until late June or early August.

Even this section can be reached in high water, however, by tubing. All that's necessary to tube is a little nerve and an old automobile inner tube. Seated in the inner tube, rod between his knees, the experienced tuber rides downstream. While the wise novice stays in fairly calm water, the old-timer, ready for some fun, tackles the rapids. Entering rapids, he uses his arms to keep the tube pointing forward and to maneuver around rocks. Occasionally bumping bottom is all in the game! Since fishing from the tube is difficult, the wise tuber rides only until he arrives at a wadable spot.

Though selection of tackle is a personal matter, I find most enjoyment is obtained when using light trout or bass tackle. An 8- or 8½-foot fly rod designed to cast either a HDH or a GBF fly line would be a good choice. Eight- or ten-foot leaders tapered to four- or six-pound test permit delicate presentation and provide a nearly invisible link between the fly line and the fly. The most successful flies have been popping hogs, streamers and nymphs. The black midget-size Hula popper has been the most successful popping bug, but other poppers will take their share of fish. The most successful streamer has been one with a red body and white or yellow bucktail wing tied on a size 2, 3x long hook. A helgrammite imitation tied with a brown chenille body and palmered with black hackle has provided more action than any other nymph imitation. The hackle is clipped close on top and bottom and left full on the sides to imitate legs.

These flies will produce, however, only if they are fished correctly. Stealth is vital to obtain best results with any of these flies. Long light leaders, careful wading and delicate presentation are necessary year around, but are especially important in low water. Each type of fly demands a different method of fishing. Popping bugs generally produce better in the quieter water of pools and riffles. The bugs are cast up or up and across stream and worked occasionally, producing bubbles and a small noise—not a loud “pop” which tends to scare fish. The streamer produces best when fished

Marvin Williams lands a sunfish with Boulevard Bridge in the background.



across or downstream in rapids or fast, deep water. The streamer is retrieved in quick, foot-long strips, causing the bucktail to pulsate in the water. Often in heavy rapids the streamer will be racing on top of the water, but fish will still boil up and belt it. The nymphs should be saved for the low-water situations where they excel. Sunfish and bass can be caught in water as shallow as six inches by carefully fishing the helgrammite. The line and all but the last two feet of the leader should be greased very well as the leader or line tip must be seen in order to detect strikes. The nymph should drift free, and as it tumbles downstream, the slack line should be stripped in. If the leader twitches or the line tip shoots upstream, a quick strike will usually result in a hooked fish. Regardless of which fly is used, rocks should always be fished carefully. Fish stay in the calm water around the sides of these rocks and can be caught with accurate casts. These methods will not, of course, produce best in all situations, but they will work satisfactorily most of the time.



Accurate, delicate casts are necessary in fishing low, clear water.

Fishin' Holes

(Continued from page 11)

Between 10 and 15 yards below here, the creek makes a slight turn and brushes against a huge rock. Water backs up under this obstruction. I especially remember an opening day experience here several years ago.

A longtime fishing companion of mine, who was sharing the hole with me, was having exceptional luck with a small, minnow-like lure. But he only had one like it. My friend also had a new landing net, of which he was justly proud, dangling down his back. He whipped his lure into the creek near the big rock, and was rewarded with an instant strike. He missed the trout, and quickly cast his lure to the same place again. This time he landed a trout.

Once more he flipped out the minnow lure, but he struck short when a trout grabbed it. This sent the lure flying back at him. Its hooks lodged in the mesh of his new landing net. He couldn't free it, and called to me for assistance.

"Cut the net! Cut the net!" he ordered. I hesitated, remembering how he had bragged about the net only minutes before. But he hollered again, and I decided to comply with his demand. I drew my knife from its sheath and snipped the cords of the net.

My friend, without another word about the worth of his landing net, arched his lure toward the rock again and dragged another rainbow out onto the bank.

Another day, this same fellow and I were fishing a Jennings Creek hole that is about a half mile below the one where I sliced his landing net. This time neither of us carried a net.

One of the characteristics of this pool is an aged tree, which stands on the bank near the tail end of the pond. A sort of cavern has been washed out beneath the roots of the old tree. This is an ideal hiding place for trout. When we reached this hole, I made the first cast. I aimed at the edge of the roots, and received a hard strike on a live minnow. Before I could put on another minnow, my pal directed his minnow into the same place where mine had been. He had a strike and let the fish take out line far back under the tree. Then he rammed the hook home. I watched enviously, because I knew he had hooked a better than average trout.

In a minute or so, my friend enticed the fish from under the roots, and it sped toward the deepest part of the pool.

"Help me get him!" he begged. Remember, we had no net. Therefore, I improvised. I grasped the outer part of my minnow hucket, which was resting in the shallow water near us, and waded into the creek. I made four or five passes at the desperate trout, and managed to guide it into the bucket. I sloshed to the bank with it. It was an 18-inch rainbow, and a beauty.

It is the natural beauty of the area through which Jennings Creek runs that adds immensely to its popularity. Trees of many kinds line its banks, and in some places there are thickets that test both the ability and the temper of an angler. Soon after the season opens in April, the dogwoods and redbuds burst into their glory, adding to the delight of the fisherman.

Jennings is one of the heaviest stocked streams, pre-season, in the entire state. It normally receives at least 7,000 rainbow and brook trout. It also gets an in-season batch of several thousand trout the first week in May. These hatchery-bred trout now provide 99.9 percent of the excitement since the natives are becoming rarer and rarer. Scattered along the creek are several locations amidst pine trees where fishermen pitch tents on the opening week of the season.

Those anglers who prefer variety in their trout fishing usually find it on Jennings Creek. If they don't, they have only to walk or drive a few miles to reach three other streams, all of which empty into Jennings. They are McFalls Creek, which I've already mentioned, and North and Middle Creeks. They all are stocked with trout. Fact is, it's sometimes hard for fishermen to make up their minds whether to begin the day on Jennings and move to one of the others later, or vice versa.

The big hole on Jennings Creek, a few hundred yards from Arcadia, from which many big trout are taken each year. Water was low when this shot was taken, but as photo shows, it was still a nice fishin' hole.



ANIMAL SPEEDSTERS

By ROLAND F. EISENBEIS, *Superintendent
Department of Conservation
Forest Preserve District of Cook County, Illinois*

A FEW adult animals, such as sponges, sea anemones and oysters, sit like plants and wait for their food to come to them. Most animals, however, go after it and this frequently develops into a speed contest between the hunter and its prey. Foxes must be fast enough to catch rabbits, and rabbits, in turn, must be fast enough for some of them to escape. However, such speed trials are not run on race tracks or according to any rules of racing. The fox is able to beat the rabbit on a straightaway, but the rabbit can dodge quicker and gain time by plunging through hushes and briars. Some animals win by short bursts of speed while others are noted for their endurance.

The world's record for speed among living things is best established for the Indian spine-tailed swift, a bird which was repeatedly clocked in level flight, over a carefully measured two-mile course, in as little as 32.8 seconds or 219 miles an hour. The European peregrine, a hawk used in falconry, was timed at 165 to 180 mph during its dive after quarry. In the United States, the golden eagle and the duck hawk can dive from high altitudes at similar speeds and the latter, in level flight, easily overtakes and seizes such swift birds as ducks and pigeons.

A few homing pigeons have averaged 60 mph over courses of a few miles and as much as 55 mph for 4 hours. The mourning dove and the golden plover have been chased by airplanes at 60 to 65 mph. Some ducks and geese can reach speeds of 55 to 60 mph or more, and the tiny hummingbird can do 50 to 55. Most birds habitually fly at speeds much less than their maximum. For example, crows commonly cruise at 20 or 30 mph but can speed up to 40 or 50. The distance endurance record is thought to be held by the Arctic tern which migrates to the Antarctic and back in about 20 weeks—a distance of 20,000 to 22,000 miles.

In a foot race the cheetah or hunting leopard wins. It has been timed at 70 miles an hour during short bursts of speed in pursuit of gazelles and antelopes. It can overtake and pull down the blackbuck of India which is reputed to reach 65 mph. The pronghorn antelope of western United States has maintained 60 mph for two miles and 36 mph for 27 miles. The lion can charge at 50 mph over short distances. Even the largest of all land animals, the African elephant, with its stiff-legged trot could beat our best track stars in the dashes, while the rhinoceros can gallop neck and neck with a good horse for two miles.

Several strains of dogs have been bred for extreme speed. The fastest of all seems to be the saluki of Arabia, or the related Afghan hound, which can step out at 43 mph and overtake the fastest Arabian horse. Greyhounds and whippets sometimes reach 35 or 40 mph in dog races.

A man has run one mile in a trifle over four minutes; a ridden horse in a little more than 1½ minutes. The distance record for a horse is reputed to be 100 miles in 8 hours and 58 minutes; for a racing camel (dromedary): 115 miles in 12 hours.

When it comes to endurance in a *very* long overland trip, the winner would probably be the camel, the horse, OR EVEN MAN.

FORESTERS NOW *USE* FIRE

(as well as fight it!)

FIRE, that traditional foe of the forester, is being put to work to benefit the nation's forests, say Dr. R. E. Martin, assistant professor of forestry at Virginia Tech, and Ronald Stemple, instructor.

For years the fear of uncontrollable fire prevented consideration of its beneficial effects in forestry. Today, however, prescribed burning is accepted as a desirable forestry practice under certain conditions.

Recently, for instance, students and staff members at Virginia Tech burned a clear-cut 30 acre area of low quality hardwoods on the university forest. The area was burned to get rid of slash (tops, limbs, etc.) and it will now be reforested to a mixture of desirable pines.

Prescribed burning is also being used to prepare seedbeds for natural reseeding, to control undesirable species of trees, to reduce fire hazards, and to change habitat conditions to benefit some wildlife species.

Martin explains that it is difficult for seeds to penetrate the duff of decaying leaves on the forest floor. Burning eliminates much of this debris and makes it easier for natural seeding to occur.

Burning can lessen fire hazards by eliminating much of the buildup of duff and broken branches that litter the forest floor. Some burning is done to benefit wildlife, such as encouraging production of wild legumes for quail, or to encourage sprout growth for deer, who live on browse.

Fire is also used for disease control as with the long-leaf pine in the Coastal Plain where it helps control brown-spot disease.

According to Martin, fire is probably the cheapest tool for getting many of these jobs done. Cost figures from the Coastal Plain, where controlled burning has been used most often, vary from three cents per acre to \$1 per acre. The U. S. Forest Service has figures to show it costs 36 cents per acre.

The Virginia Division of Forestry will now assist landowners to burn their woodlands on a fee basis. A landowner must inform the local Virginia Division of Forestry representative of his intention to burn, and he must take every precaution to see that the fire does not get out of control.

Martin says that weather conditions and fuel conditions should be known. A knowledge of weather conditions is important since a sudden gusting of winds, or the coming of a dry cold front, can cause trouble. A front passing through has been known to shift winds as much as 90 degrees in a short period.

A fire plan should be made, and fire breaks laid out beforehand. A small trial fire should be lighted first and observed before large areas are burned.

According to Martin, "Controlled burning can be a very valuable tool to accomplish many jobs in our woodlands at nominal cost. It must be respected, however, and controlled to prevent it from destroying valuable timberland and watershed areas. As our experience with prescribed burning grows, no doubt there will be an increasing recognition of its beneficial aspects and an increase in its use."

From Virginia Polytechnic Institute *Extension Service News*, Blacksburg, January, 1966.



Edited by HARRY GILLAM

Hunter Use Down on Back Bay Areas

The number of hunters using the Trojan and Pocahontas waterfowl hunting areas in Back Bay declined somewhat last season from the totals chalked up during their first year of operation. Most of this drop in use is credited to the bluebird weather which prevailed during most of last fall's waterfowl season and to the fire closures which affected both areas and prompted numerous cancellations. The Trojan area was shut down for 2 weeks and Pocahontas was closed for 3 days.

Considering the lower number of hunters, success remained about on a par with last year. On the Trojan area, where a \$3.00 daily blind fee is charged, 214 man-days of hunting accounted for 31 ducks and 19 geese. On the Pocahontas area, where guide and blind is provided for a \$23.00 daily fee, 341 hunter days of effort yielded 253 ducks and 121 geese.

During the season various blinds were observed without the hunters' knowledge to get information on hunting success and crippling losses. Hunters averaged nearly 10 shots apiece and fired over 7 shots for each bird bagged. The gunners managed to down about one out of every 6 birds that passed within range of the blind. The crippling loss was less than one-half birds per hunter.

Big Buck



Charles W. Branch of Richmond poses proudly with the eight-point buck he bagged January 15, while hunting in New Kent County.

Proud Bowhunters



Ray McCraw receives the elaborate trophy presented by S. O. Fisher Sporting Goods of Lynchburg to the winner in the big buck contest for archers. His 10-point trophy was tops among the 10 kills entered. Shown with him are winners of some of the lesser awards. Over 250 bowhunters registered for the contest before the hunting season opened.

Southwest Virginia Wildlife and Deer Association Formed

A new sportsmen's group, the Southwest Virginia Wildlife and Deer Association has been formed with headquarters in Pound, Virginia. A total of 72 charter members joined forces to get the organization off to a flying start. Their stated purposes include stimulating interest in outdoor pursuits including hunting, fishing, and trapping; active participation in wildlife conservation activities; pressure for needed laws and regulations relative to conservation and outdoor sports; and dedication to activities which will aid in safeguarding the country.

Current dues are \$2.00 annually. Hobart Bentley of Pound, Virginia, was elected as the group's first president. The group's headquarters is in the V.F.W. Building in Pound, Virginia.

6893 Doves Bagged on Commission Dove Fields

Hunters bagged a total of 6893 doves on some 38 Game Commission managed dove fields in eastern Virginia during the 1965-66 hunting season. The average daily bag was 3.7 doves per hunter. Specially planted fields on Pickett, Powhatan, Quantico, Elm Hill, A. P. Hill, Kerr Reservoir and Cumberland State Forest wildlife management areas were open to shooting on Wednesday and

Saturday afternoons during the first half of the state's split dove season.

The best success was on the Camp Pickett fields where hunters averaged 6.3 birds apiece. On Elm Hill gunners averaged 4 birds and on Kerr Reservoir average success was 4.5 birds per hunter.

Hidden Valley Lake Opened to Trout Angling

The 60 acre lake on the Commission's Hidden Valley Wildlife Management Area in southwest Virginia was opened to trout fishing at noon, April 2. Only fish 10 inches or over may be creel and anglers are required to use artificial lures with barbless hooks. The daily creel limit is 5 trout as on all impoundments.

The lake was stocked with fingerling trout in January of 1965. This is a put, grow and take operation where the fish will utilize the natural productivity of the lake. The size limit was set at a level the growing trout should be reaching throughout the summer. Also included under the regulation is a three and one-half mile stretch of Big Brumley creek.

Pheasants for Shenandoah Valley



Part of a release of 70 Japanese green pheasants made late last fall are shown heading for their new territory in the Calvary section. A similar release of 200 was made in October, 1964. It appears that the Japanese green pheasant has the best potential in the Shenandoah Valley and Tidewater Virginia areas, while Iranian blacknecks and blackneck-ringneck hybrids seem best suited to Piedmont and southern counties. Game Warden Fred W. Hottle, at left, has assisted with the release program in this area.



Edited by DOROTHY ALLEN

Strange Kill

Virginia Tech student Sandy McLaughlin of Brownsburg shot, near Lexington in Rockbridge County, what may be a rarity in Virginia wildlife. Examinations by Dr. Henry Mosby of the V.P.I. Wildlife Unit indicated it's a coyote. The only previous coyote killed in the state was in Tazewell County several years ago when western hunters were called in with special coyote dogs. It was later determined that the coyote had been brought in as a pup and had escaped. Specimens from McLaughlin's kill have been sent to the Smithsonian Institution for more positive identification.

Courtesy of Ozzie Worley
THE WORLD NEWS, Roanoke



Photo by Aubrey Shaw, Radford

Sandy McLaughlin with the animal he killed.



Harrisonburg Daily News Record photo
Mike Reilly and his bear.

A Hunting She Did Go



Sandra Engle, eight year old daughter of Game Commission Forester J. W. Engle, Jr., proudly shows Rusty, her dog, the rabbit she shot. This was Sandra's first hunting trip. She had shot a 22 rifle only twice before going hunting. The rabbit was enjoyed for dinner by Sandra who said it was the best one she ever ate. She kept the left hind foot for good luck.

Hunter's Prize

Mike Reilly, 16-year-old Harrisonburg High School student who has been hunting for four years, downed his first big game. On the east slope of the Blue Ridge Mountains in Augusta County, Mike felled a bear, estimated to weigh nearly 250 pounds, with one shot in the chest. Other hunters apparently had frightened the animal out of the mountains above Mike.

"I first saw him cross this power line cut above me. He then came down into the ravine where I was. He was moving pretty fast. I shot as he passed on my right, and he somersaulted about 20 yards down the mountain," Mike said.

He said the bear was about 50 yards away when he hit him with the .250 slug.

Mike said it took him and his companion, George Homan of Harrisonburg, nearly two hours to get the bear out of the mountains.

Hunter Safety Classes

Shenandoah County Game Warden, Fred Hottle, represented the Game Commission in presenting hunter safety courses at three high schools in October. The Hunter Safety Course was given to the students of Stonewall Jackson High School at Mount Jackson by Hugh M. Hawkins, students of Central High School at Woodstock by Derwood Myers, and pupils of Strasburg High School by B. W. Roller.



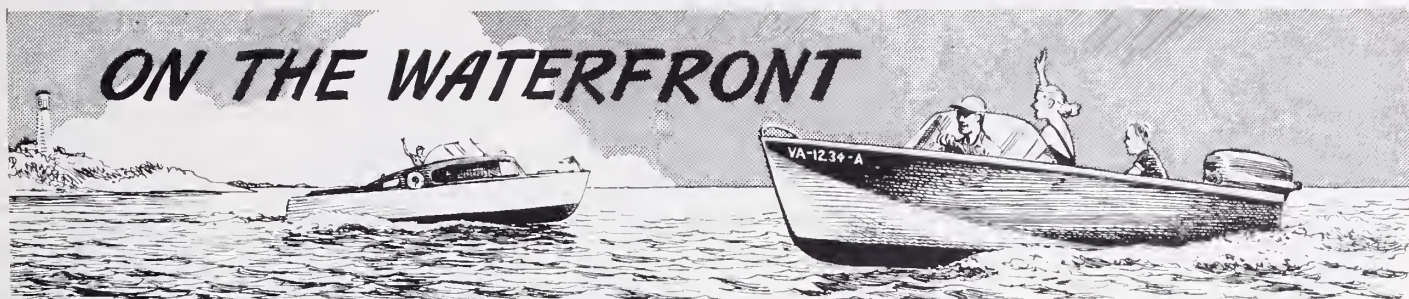
Game Warden Hottle and instructor B. W. Roller with Strasburg High School students.



Warden Hottle, students of Stonewall Jackson High School and Hugh Hawkins, vocational agriculture instructor.



Warden Hottle with hunter safety students of Central High School and (second row, right) Mr. Derwood Myers, instructor.



Edited by JIM KERRICK

What About Equipment?

The Virginia Boating Safety Law sets forth certain requirements regarding equipment which were designed for the protection of the skipper, passengers and other boatmen. Mere compliance with the law is in no way a guarantee of safety. You can buy all the approved and required equipment, then stow the equipment in an inaccessible locker. On the other hand, you can choose the equipment you actually need and keep the equipment readily accessible and in good working order.

You can adhere to the law by carrying cushion-type life preservers; but no child under nine years of age can use this type safely, and in most cases children of this age cannot be trusted to put on any type of life preserver in case of emergency. A good conscientious skipper, when he has small children aboard, would require them to wear a reliable, well fitted life preserver at all times, even though the law does not require the wearing of life preservers when afloat.

Fire extinguishers are required by law to be carried aboard certain classes of power boats. Even with this piece of equipment on board, you can store it away in an inaccessible place, or you can use some foresight by mounting the extinguisher where it will be readily accessible in case of fire. Your extinguisher gauge should be checked periodically to insure that it is fully charged and the gauge is working.

A seasoned skipper regards the legal requirements as a basic minimum. Additional safety gear, such as anchor, bailer, tool kit, flares and flashlight should be based on careful consideration as to where and how the boat is going to be used.

Frame of Mind

A skipper's safety responsibility involves a complex combination of mechanical factors. The seaworthiness of your vessel and motor, the availability and the quality of your equipment, your own skill and experience—all are influenced

by your attitude toward boating. For example, two widely held attitudes, not wrong in themselves, are almost a call for disaster.

The first is, that boating offers *only* relaxation and escape from routine. Some novice boaters interpret this to mean escape from responsibility and common sense. They jump from the pier into a boat, land in the water or in the bottom of the boat with an injury to themselves or damage to some piece of equipment. They run at full speed across a stretch of unfamiliar water and end up on a sand bar or striking some submerged obstruction. They let their attention wander while underway. Boating is a source of relaxation, but on the other hand it can be a source of sudden discomfort, injury or death. A skipper can only relax when he knows that his every habit and action have been conditioned to recognize danger and to avoid it.

The second and possibly the most dangerous attitude is that "anyone can do it" approach to boating. This stems partly from the beginner's wishful enthusiasm, partly from a reaction against the well seasoned skipper who makes boating sound like a secret art. The latter is not so, but neither is the line some salesmen use: "If you can drive a car, you can operate a boat."

Anyone with coordination and intelligence who can drive a car can *learn* to operate a boat. Many believe that you can step from one to the other with no knowledge of boating or water.

There are many differences, and the novice boatman should acquaint himself with these differences prior to launching his boat.

Common Emergencies

Emergencies can happen in any type vessel. In each of the following categories keep in mind that it is less the emergency itself than your course of action afterwards that determines the extent of the damage.

Loss of control can lead to collision, grounding or capsizing. A common

cause of loss of control in powerboats is a simple and embarrassing matter of running out of fuel. This can be avoided by making sure your fuel tanks are full whenever you leave port, and planning scheduled fuel stops or carrying extra gasoline with you. Allow for a margin of error in case of adverse weather conditions.

Engine failure of a serious nature is unlikely if your engine is in good mechanical condition, but a minor failure, such as a fouled spark plug, dirt in the fuel lines, or burned points can stop an engine. An experienced skipper carries a kit of basic spare parts, tools and his engine maintenance manual.

Man overboard need not be a tragedy if you observe the important precautions. First, don't run over the victim with your boat or hit him with the propeller. Second, don't knock him unconscious by hitting him with a life ring. Third, don't capsize your boat by trying to pull the victim aboard. Fourth, don't go overboard and abandon your boat in an effort to rescue victim. Do toss him a flotation device as soon as possible if he is not already wearing one, and then use caution in approaching him and getting him back on board.

Sinking, though frightening, is not a danger to small craft with adequate flotation. Most small craft today will remain afloat even when they are swamped or upside down. Stay with the boat if it remains on the surface. Don't swim away from it in search of help.

Capsizing and swamping can be caused by overloading, horseplay or a sudden change in the weather. The wake from another boat in some instances can cause swamping. When operating in rough waters keep the bow of your boat headed into the waves or at least at a 45 degree angle to them.

In any emergency *remain with your boat*. This makes it much easier for search and rescue crews. Many fatalities occur because someone tries to swim ashore. Distance over water is hard to judge.

1966 In-season Restocking Plan (Continued from page 7)

	May	June
BOTETOURT CO.		
Jennings C.	R	R, BR
Mill C.	R	R
Roaring Run	R	R
North C.*	R	R
Middle C.*	R	R
McFalls C.*	R	R
Cornelius C.*	R	R
BUCHANAN CO.		
Slate C.	B, R	
Hurricane Fk.	B, R	
CARROLL CO.		
Big Reed Island	R, BR	R
Little Reed Is.	R, BR	R
Crooked C.	R, BR	R
Stewart C.	R	R
Burkes Fk. C.	R	R
Coal C.	R	R
CRAIG CO.		
Johns C.	R, BR	
Potts C.	R, BR	R, BR
Barbours C.*	R	R
DICKENSON CO.		
Caney C.	R	
Frying Pan C.	B, R	
FLOYD CO.		
Beaver C.	B	
Burks Fk. C.	R	R
Howells C.	B, R	R
Indian C.	R	R
Meadow C.	B	
Rush Fk.	B	
West Fk., Little R.	R	R
Laurel Fk.	R	R
FRANKLIN CO.		
Green C.	B, R	
Maggoddee C.	B, R	
Runnett Bag C.	B, R	
Blackwater R.	B, R	
FREDERICK CO.		
Back C.	B, R, BR	
Cedar C.	R, BR	R
Hogue C.	R, BR	
Paddy Run*	R	R
GILES CO.		
Big Stony C.	R, BR	R
Dismal C.*	R	R
GRAYSON CO.		
Big Wilson C.	R, BR	R
Middle Fk. Helton C.	B	
Helton C.	B	R
Big Fox C.	R, BR	R
Middle Fox C.	R	R
Elk C.	R	R
Peach Bottom C.	B	R
Turkey Knob Fk. C.	B	
GREENE CO.		
Ivy Br.	B, R	
South R.	B, R	B, R
Swift Run	B, R	B, R
HENRY CO.		
Smith R.	R, BR	R, BR
HIGHLAND CO.		
Bullpasture R.	R, BR	R, BR
Crab Run	B, R	
Davis Run (Stuarts Run)	B, R	
Laurel Fk.	B, R	
South Br. Potomac R.	B, R	
Benson Run*	R	

LEGEND:

*—National Forest Streams
 R.—River
 C.—Creek
 Br.—Branch
 Fk.—Fork

Species Stocked:
 B—Brook Trout
 R—Rainbow Trout
 BR—Brown Trout

	May	June
LEE CO.		
Hardys C.	B, R	R
Martins C.	B, R	
MADISON CO.		
Garth Run	B, R	
Hughes R.	B, R	R
Robinson R.	B, R	
Rose R.	B, R	
MONTGOMERY CO.		
Brush C.	R	
Toms C.	R	
S. Fk. Roanoke R.	R	R
Poverty C.*	R	
NELSON CO.		
Tye R.	R, BR	R, BR
N. Fk. Tye R.	R, BR	R, BR
Stony C.	B, R	B, R
S. Fk. Rockfish R.	B, R	
PAGE CO.		
E. Fk. Hawksbill C.	R	
Hawksbill C.	B, R	
Cub Run*	R	R
Pitt Spring Run*	R	R
PATRICK CO.		
Dan R.	R, BR	R
Rockcastle C.	B, R	
Round Meadow C.	B, R	
N. Fk. Mayo C.	B, R	
S. Fk. Mayo C.	B, R	
Big Ivy Creek	B, R	
PULASKI CO.		
Big Laurel C.	R	
W. Fk. Peak C.	B	
RAPPAHANNOCK CO.		
Piney Br.	B, R	
Rush R.	B, R	B, R
Thornton R., N. Fk.	B, R	
ROANOKE CO.		
Roanoke R.	R, BR	
ROCKBRIDGE CO.		
Mill C.	B, R	
South R.	R, BR	R, BR
Hayes C.	R, BR	
Irish C.	R	R
Elk C.*	R	
Big Marys C.*	R	
ROCKINGHAM CO.		
N. F. Shenandoah R.	R, BR	
Briary Br.	R	
Dry R.	R	
Silver Lake (Dayton)	R	R
Boones Run*	R	
Fridley Run*	R	

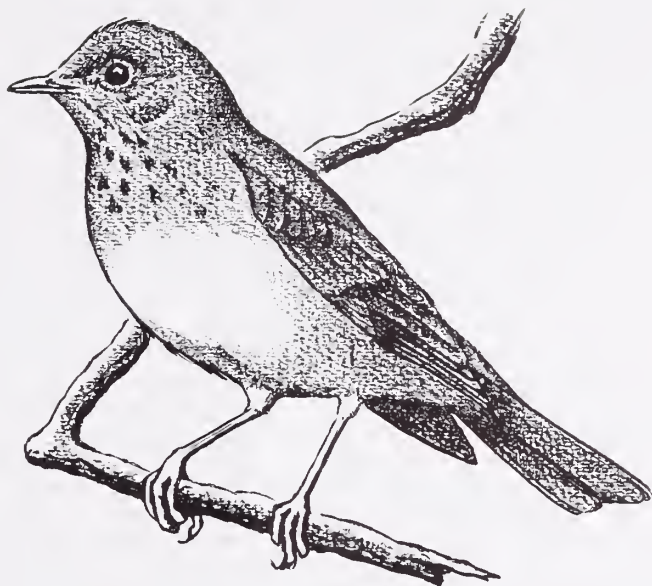
	May	June
ROCKINGHAM CO. (Continued)		
Shoemaker R.*	R	
Long Run*	R	
Black Run*	R	
Gum Run*	R	
Hone Quarry*	R	
Skidmore*	R	
Union Springs*	R	
RUSSELL CO.		
Big Cedar Creek	R, BR	R
SCOTT CO.		
Big Stony	R	
Little Stony C.	B	
Stock C.	B	R
Cove C.	R	
Devils Fork*	R	
Stony C.*	R	R
Straight Fk.*	R	R
Little Stony C.*	R	R
SHENANDOAH CO.		
Passage C. (lower)	B, R	B, R
Big Stony C. (incl. Lower Laurel Run)	R	R
Cedar C.	B, R	R
Mill C.	R	
Laurel Run*	R	
Little Stony (above)*	R	R
Little Stony (below)*	R	
Mountain Run*	R	
Little Passage C.	R	
Upper Passage C.	R	
Peters Mill C.	R	
SMYTH CO.		
S. Fk. Holston R.	R	R
Lick C.	B, R	R
Big Laurel	R	R
Staley C.	B, R	R
Cregger C.*	R	
Comers C.*	R	R
Hurricane C.*	R	
Cressy C.*	R	
Houneshell C.*	R	
Dickey Br.*	R	
Rowlands C.*	R	
Canady C.*	R	
TAZEWELL CO.		
Cove C.	B, R	R
Laurel C.	B, R	
Roaring Fk. C.	B, R	R
Little Tumbling C.	B, R	R
Wolf C.	R	R
Punch & Judy C.*	R	
WARREN CO.		
Gooney Run	B, R, BR	B, R
WASHINGTON CO.		
Whitetop Laurel C.	R	R
Tennessee Laurel C.	R	R
Green Cove C.	R	
Big Brumley C.	B, R	R
Big Tumbling C.	B, R	R
Straight Br.*	R	R
WISE CO.		
S. Fk. Powell R.	B, R	
Burns C.*	R	
Clear C.*	R	R
WYTHE CO.		
Cripple C.	R, BR	R
Francis Mill C.*	R	
E. Fk. Stony C.*	R	
Dry Run*	R	
W. Fk. Reed C.*	R	
W. Fk. Peak C.	R	

Bird

of

the

Month:



Veery

By DR. J. J. MURRAY
Lexington

THE veery was once known as Wilson's thrush. It was one of a number of birds named for the early ornithologist, Alexander Wilson, who did a remarkable pioneer job in painting the birds of this country but whose memory is overshadowed by that of his greater contemporary, John James Audubon.

In thinking of the veery it is its amazingly beautiful song that comes most often to mind. Ornithologists have disputed about the quality of that song, but most of them consider the veery one of our finest singers. I would certainly agree with those who put it at the top of this thrush family. Winsor M. Tyler says that its song is "one of the strangest sounds in nature," and thinks of it as expressing a calm and holy emotion "like a hymn or a prayer."

There is always an unearthly quality in this song. It is a descending series of phrases, of which the usual description, "whee-u, whee-u, whee-u," can show its pattern but give little idea of its beauty. There may be more brilliant songs, but there is certainly none more moving. At times there is a ventriloquial quality in it. Sometimes, when apparently the bird is singing for its own pleasure, it is a whisper song, strange and lovely, inaudible at a little distance.

One day in May, as I sat at my desk in Lexington, I heard to my amazement a veery's song, faint, to be sure, lacking in the resonance of the full mating song, but with

the same soul-stirring quality. Without moving from my desk I saw the bird. In the center of a snowball bush a veery sat, singing to himself—and to me—a whisper song. I have also heard the veery sing its usual song in my yard, although never with the full power of the song of its breeding haunts. Sometimes the bird has a harsh call note, "fee-u," like a sneer.

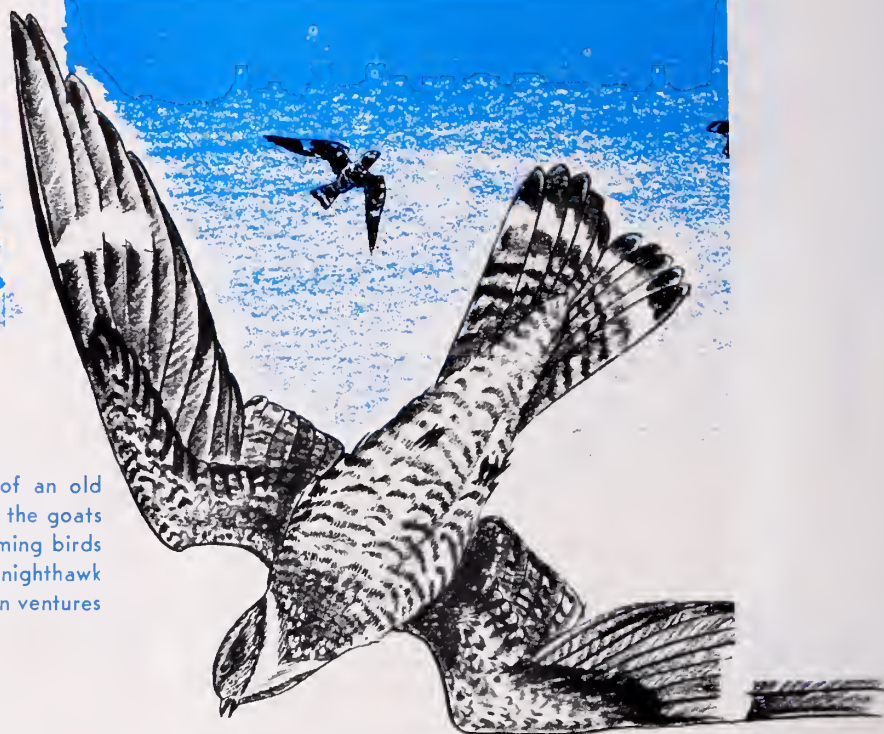
In Virginia the summer home of the veery is the high forest above 3000 feet, particularly where there are dense rhododendron thickets near the large oaks in which it likes to perch. The first Virginia nest was found on Mt. Rogers on June 25, 1903, the birds and the nest being collected for John W. Daniel, Jr., son of Virginia's great senator.

Most of my space, properly enough, has been taken up with this bird's famous song. In my rather limited experience with its breeding, the nest, made of dry leaves and rootlets, is placed near the ground but lifted a few inches on the base of some sapling shoots. The veery usually lays four eggs, greenish-blue, much like the eggs of the robin or the wood thrush. They are laid from mid-May to early June, somewhat later on the higher mountains.

More than half of the veery's food consists of insects, and most of the remainder of berries and soft fruits. While useful in its food habits, this is quite unimportant as compared with the pleasure the bird gives by its lovely song.

Night Birds

Known as the "goatsuckers" because of an old European belief that they often robbed the goats of their milk, these secretive, night-roaming birds are more often heard than seen; but the nighthawk (right), which isn't a "hawk" at all, often ventures out in broad daylight.



The chuck-will's-widow is almost a foot long, feeds on moths and other night insects and rests on the ground during the day.



All these birds have small beaks but tremendous mouths.

The whip-poor-will is similar in drab coloration to the chuck-will's-widow but is a bit smaller. It is a bird of the woodlands.



These are the eggs of the whip-poor-will. No nest is built and the two eggs are simply deposited on the leafy ground.

